REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicant respectfully submits that the pending claims are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance,** <u>**the applicant respectfully requests that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits**</u>.

The applicant will now address each of the issues raised in the outstanding Office Action.

Objections

Claims 16, 17, 42 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 16 and 17 depend, indirectly, from claim 12, and claims 42 and 43 depend, indirectly, from claim 38. Since base claims 12 and 38 are allowable over the cited art for the reasons discussed below, these claims have not been rewritten in independent form at this time.

-21-

Rejections under 35 U.S.C. § 103

Claims 1-15, 19-41, 45-50 and 52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over David Comer, _Internetworking with TCP/IP_, (2000) Prentice Hall (pub) ("the Comer book") and further in view of Sandick, et al., "Internet-Draft Fast Liveness Protocol," (February 2000) ("the Sandick paper") and U.S. Patent Application Publication No. 2004/0121792 ("the Allen publication"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Independent claims 1 and 27 are not rendered obvious by the Comer book, the Sandick paper and the Allen publication because (1) one skilled in the art would not have combined the cited references as proposed by the Examiner, and (2) these references, either taken alone or in combination, neither teach, nor make obvious, composing an aggregated message including at least two indicators, each indicator identifying a different one of the at least two different kinds of routing protocols and the corresponding status information from each of the at least two different kinds of routing protocols as data within the aggregated message. Each of these issues is addressed below.

First, one skilled in the art would not have combined the cited references as proposed by the Examiner. In rejecting independent claims 1 and 27, the Examiner contends that the Comer book teaches:

> a) accepting, using the node, status information from at least two different kinds of [...] protocols

-22-

(Comer; 15.10 BGP Functionality and
Message Types and 15.16 *BGP KEEPALIVE
Message*, discloses determining at a
first node status information for both
BGP and TCP protocols);

    b) composing, using the node, an
aggregated message including . . . the
status information from the at least
two different kinds of [...] protocols
[...] (Comer; Figure 15.10 BGP
Functionality and Message Types and
15.16 *BGP KEEPALIVE Message*, discloses
composing an aggregated keepalive
message including the status
information); and

    c) sending, using the node, the
aggregated message towards a neighbor
node (Comer; 15.10 BGP Functionality
and Message Types and 15.16 *BGP
KEEPALIVE Message*, discloses sending
the keep calive message to neighbor
second node). [Emphasis added.]

(See Paper No. 20091014, pages 3 and 4.) Thus, the
Examiner contends that the Comer book "discloses
composing an aggregated keepalive message including the
status information." However, the KEEPALIVE message
described in the Comer book is used to "actively test
peer connectivity" by "periodically exchang[ing]
KEEPALIVE messages to test connectivity and to verify
that both peers *continue to function*. [Emphasis added.]"
(Sections 15.10 and 15.16 of the Comer book.) That is,
the KEEPALIVE message described in the Comer book is used
to test *connections that have already been established*.

    The Examiner concedes that the Comer book "does not
explicitly disclose ... that the multiple protocols
reported on may both be routing protocols." (See Paper
No. 20091014, page 4.) In an attempt to compensate for
this admitted deficiency, the Examiner relies on the

-23-

Allen publication (specifically paragraph [0029] of the
Allen publication). (See Paper No. 20091014, page 4.)
Specifically, the Examiner states:

> Comer does not explicitly
> disclose, however Allen discloses that
> the multiple protocols reported on may
> both be routing protocols (Allen;
> paragraph 29; routing protocols) and
> that the message includes an indicator
> explicitly indicating the status of
> each of the two different kinds of
> routing protocols (Allen; paragraph 29;
> binary flags indicating the status of
> the routing protocols).
>
> It would have been obvious to one
> of ordinary skill in the art at the
> time the invention was made to modify
> the system disclosed by Comer, to
> include reporting on multiple routing
> protocols and explicitly indicating the
> status of each of the two different
> kinds of routing protocols, as
> disclosed by Allen, in order to apply
> the discovery taught in Comer to
> networks with heterogeneous topologies.

(Paper No. 20091014, pages 4 and 5)

However, the Allen publication concerns establishing
connections between wireless devices that wish to
"*initiate communication* with devices that are already
part of the network, or are starting the network, and
transmit information indicative of supported routing
protocols. [Emphasis added.]" (Abstract of the Allen
publication.) More specifically, the message transmitted
in paragraph [0029] of the Allen publication "includes
information identifying routing protocols that the kth
device supports" *in order to establish communication*

-24-

between two wireless devices.   One skilled in the art
would not have modified the KEEPALIVE message of the
Comer Book (which is used to test connectivity of _already
established_ _connections_) with the message described in
the Allen publication (which merely lists routing
protocols a device supports in order to _initiate a_
connection).

Furthermore, the KEEPALIVE message described in the
Comer book "consists of a standard message header **with no**
additional data. [Emphasis added.]" (Section 15.16 of
the Comer book) The KEEPALIVE "standard message header"
includes only three fields: (1) a MARKER field (which
contains a value that both sides agree to use to mark the
beginning of a message), (2) a LENGTH field (which
specifies the total message length measured in octets),
and (3) a TYPE field (which contains a 1-octet field
containing the type of message, e.g., a KEEPALIVE message
type). (See sections 15.10, 15.11 and 15.16 of the Comer
book.) Thus, the KEEPALIVE message described in the
Comer book cannot include a list of multiple routing
protocols supported by the nodes, and indeed teaches away
from including any additional data.

Thus, in view of the foregoing remarks, independent
claims 1 and 27 are not rendered obvious by the cited
references for at least the foregoing reasons.
Independent claims 12, 19, 22, 38 and 45 are similarly
not rendered obvious by the cited references. Since
claims 2-11, 48, 49 and 50 directly or indirectly depend
from claim 1, since claims 13-15 and 52 directly or
indirectly depend from claim 12, since claims 20 and 21
depend from claim 19, since claims 23-26 directly or
indirectly depend from claim 22, since claims 28-37

-25-

directly or indirectly depend from claim 27, since claims 39-41 directly or indirectly depend from claim 38, and since claims 46 and 47 directly or indirectly depend from claim 45, these claims are similarly not rendered obvious by the cited references.

Second, regardless of whether or not one skilled in the art would have been motivated to combine the cited references, the proposed combination neither teaches, nor makes obvious, composing an aggregated message including at least two indicators, each indicator identifying a different one of the at least two different kinds of routing protocols and the corresponding status information from each of the at least two different kinds of routing protocols as data within the aggregated message.

In rejecting independent claims 1 and 27, the Examiner concedes that the Comer book "does not explicitly disclose" (A) including status information from the at least two different protocols as data within an aggregated message and (B) "that the multiple protocols reported on may both be routing protocols." (See Paper No. 20091014, page 4.) In an effort to compensate for these deficiencies of the Comer book, the Examiner relies on the Sandick paper and the Allen publication, respectively, as teaching these features. The applicant respectfully disagrees.

First, as discussed in the previous response filed on July 28, 2009, the Sandick paper includes a "list of neighbor interfaces that the transmitting device has heard from." (Section 4.2 of the Sandick paper.) The described list is "[a] list of all source IP addresses of

-26-

all FLIP Advertisements that have been heard on this interface". (Section B.1 of the Sandick paper.) *This list of neighbor interfaces that the transmitting device has heard from does not indicate the status of the at least two different protocols being used by the neighboring nodes*. Rather, in the Sandick paper, a node receiving a status message from a neighbor node can only *infer* that status of its own interface with the neighbor node (and, thus, the status of the protocol being used by that interface). Specifically, the Sandick paper provides:

> When a device receives a FLIP Advertisement from a neighbor, it lists the neighbor interface in its own FLIP advertisements for that interface. If a device receives an advertisement containing its own interface in one of the neighbor fields and it has listed that neighbor in its own advertisement, a FLIP adjacency is established. If an advertisement containing the receiving device interface has not been received from a neighbor in FLIPAdvertismentDeadInterval seconds, then that neighbor is removed from subsequent advertisements (for that interface) and the adjacency is considered down.

(Section 4.5 of the Sandick paper.) As can be appreciated from the foregoing, even though a FLIP Advertisement message may include a *list* of all source IP addresses of all nodes that the transmitting node has heard from, *the receiver node can only infer the status of the protocol being used by its interface with the sending node*. That is, the inclusion of source IP addresses in the FLIP Advertisement does not provide the

-27-

status of the source nodes. Thus, the Sandick paper neither teaches, nor makes obvious, accepting *status* information of at least two different kinds of routing protocols (e.g., *which indicates whether the at least two protocols are up, down, not responding, or restarting*) and composing an aggregated message including the status information of the at least two different kinds of routing protocols as data within the aggregated message.

The Allen publication fails to compensate for the aforementioned deficiencies of the Comer book and the Sandick paper. Thus, independent claims 1 and 27 are not rendered obvious by the cited references for at least the foregoing reason.

Next, as discussed above, the Examiner concedes that the Comer book "does not explicitly disclose ... that the multiple protocols reported on may both be routing protocols." (See Paper No. 20091014, page 4.) In an attempt to compensate for this admitted deficiency, the Examiner relies on the Allen publication (specifically paragraph [0029] of the Allen publication). However, the message described in paragraph [0029] of the Allen publication "includes information identifying routing protocols *that the kth device supports*." The listing of routing protocols which a device supports does not teach including *status information* (e.g., *protocols are up, down, not responding, or restarting*) from each of the at least two different kinds of routing protocols as data within the aggregated message.

Thus, independent claims 1 and 27 are not rendered obvious by the cited references for at least this additional reason.

-28-

Independent claims 12, 19, 22, 38 and 45 are
similarly not rendered obvious by the Comer book, the
Sandick paper and the Allen publication. Since claims
2-11, 48, 49, 50 and 54 directly or indirectly depend
from claim 1, since claims 13-15, 52 and 55 directly or
indirectly depend from claim 12, since claims 20 and 21
depend from claim 19, since claims 23-26 directly or
indirectly depend from claim 22, since claims 28-37
directly or indirectly depend from claim 27, since claims
39-41 directly or indirectly depend from claim 38, and
since claims 46 and 47 directly or indirectly depend from
claim 45, these claims are similarly not rendered obvious
by the Comer book, the Sandick paper and the Allen
publication.

Claims 18 and 44 stand rejected under 35 U.S.C.
§ 103(a) as being unpatentable over the Comer book, the
Sandick paper, and the Allen publication, further in view
of U.S. Patent No. 5,349,642 ("the Kingdon patent"). The
applicant respectfully requests that the Examiner
reconsider and withdraw this ground of rejection in view
of the following.

Claims 18 and 44 depend from claims 12 and 38,
respectively. Since the purported teachings of the
Kingdon patent do not compensate for the deficiencies of
the Comer book, the Sandick paper, and the Allen
publication with respect to claims 12 and 38, as amended
(discussed above), these claims are not rendered obvious
by the Comer book, the Sandick paper, the Allen
publication and the Kingdon patent, regardless of the
purported teachings of the Kingdon patent, and regardless

-29-

of the presence or absence of an obvious reason to
combine these references as proposed by the Examiner.

Claims 51 and 53 stand rejected under 35 U.S.C.
§ 103(a) as being unpatentable over the Comer book, the
Sandick paper and the Allen publication, further in view
of U.S. Patent No. 7,362,700 ("the Frick patent"). The
applicant respectfully requests that the Examiner
reconsider and withdraw this ground of rejection in view
of the following.

Claims 51 and 53 depend from claims 1 and 12,
respectively. Since the purported teachings of the Frick
patent do not compensate for the deficiencies of the
Comer book, the Sandick paper and the Allen publication
with respect to claims 1 and 12, as amended (discussed
above), these claims are not rendered obvious by the
Comer book, the Sandick paper, the Allen publication and
the Frick patent, regardless of the purported teachings
of the Frick patent, and regardless of the presence or
absence of an obvious reason to combine these references
as proposed by the Examiner.

New Claims

New claims 56 and 57 depend from independent claims
1 and 12, respectively, and more clearly distinguished
the claimed invention over the cited art. These claims
are supported, for example, by paragraphs [0025] and
[0026] of the present application.

-30-

Conclusion

In view of the foregoing amendments and remarks, the applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, the applicant requests that the Examiner pass this application to issue.

Any arguments made in this amendment pertain **only** to the specific aspects of the invention **claimed.** Any claim amendments or cancellations, and any arguments, are made **without prejudice to, or disclaimer of**, the applicant's right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Since the applicant's remarks, amendments, and/or filings with respect to the Examiner's objections and/or rejections are sufficient to overcome these objections and/or rejections, the applicants' silence as to assertions by the Examiner in the Office Action and/or to certain facts or conclusions that may be implied by objections and/or rejections in the Office Action (such as, for example, whether a reference constitutes prior art, whether references have been properly combined or modified, whether dependent claims are separately patentable, etc.) is not a concession by the applicants that such assertions and/or implications are accurate, and that all requirements for an objection and/or a rejection have been met. Thus, the applicants reserve the right to analyze and dispute any such assertions and implications in the future.

-31-

Respectfully submitted,
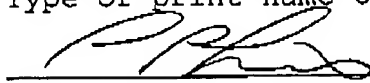
December 14, 2009

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patent Office on the date shown below.

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December 14, 2009
Signature   Date

-32-